Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
2009 - 2011 OLC Lidar DEM: Deschutes (OR)

1.2. Summary description of the data:
Watershed Sciences, Inc. collected Light Detection and Ranging (LiDAR) data of the Deschutes Study Area for the Oregon Department of Geology and Mineral Industries (DOGAMI).The dataset covers portions of Deschutes, Crook, Jefferson, Klamath, Lake, and Lane counties in Oregon. The study area totals 2899 square miles (1,855,159 acres). The data were collected in 17 deliveries, from 2009 through 2011.

The bare earth digital elevation model (DEM) represents the earth's surface with all vegetation and human-made structures removed. The bare earth DEMs were derived from lidar data using TIN processing of the ground point returns. The DEM grid cell size is 3 feet. Some elevation values have been interpolated across areas in the models where there is no elevation data (e.g. over water, over dense vegetation).

In addition to the bare earth DEMs, the topobathy lidar point data are also available. These data are available for custom download here: https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=8397

Original contact information:

  Contact Name: Don Haines

  Contact Org: Nature of the Northwest

  Title: Manager

  Phone: 971-673-2331

  Email: orders@naturenw.org

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2009-10-02 to 2011-05-05

1.5. Actual or planned geographic coverage of the data:
W: -122.06614, E: -120.599682, N: 44.804781, S: 42.991949

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:
coastal.info@noaa.gov

2.5. Phone number:
(843) 740-1202

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):
Process Steps:
    - Watershed Sciences, Inc. has collected Light Detection and Ranging (LiDAR) data of the Deschutes Study Area for the Oregon Department of Geology and Mineral Industries (DOGAMI). The area of interest (AOI) totals 3,001 square miles (1,920,429 acres) and the total area flown (TAF) covers 3,053 square miles (1,953,949 acres). The TAF acreage is greater than the original AOI acreage due to buffering and flight planning optimization (Figure 1.1 below). DOGAMI data are delivered in OGIC (HARN): Projection: Oregon Statewide Lambert Conformal Conic; horizontal and vertical datum: NAD83 (HARN)/NAVD88 (Geoid03); units: International Feet. The LiDAR survey utilized Leica ALS50 Phase II and ALS60 sensors mounted in multiple Cessna Caravan 208Bs. The Leica systems were set to acquire greater than or equal to 105,000 laser pulses per second (i.e. 105 kHz pulse rate) and flown at 900 and 1300 meters above ground level (AGL), capturing a scan angle of plus or minus 14 degrees from nadir. These settings are developed to yield points with an average native density of 8 points per square meter over terrestrial surfaces. The native pulse density is the number of pulses emitted by the LiDAR system. Some types of surfaces (i.e. dense vegetation or water) may return fewer pulses than the laser originally emitted. Therefore, the delivered density can be less than the native density and vary according to distributions of terrain, land cover and water bodies.
    - Processing. 1. Flight lines and data were reviewed to ensure complete coverage of the study area and positional accuracy of the laser points. 2. Laser point return coordinates were computed using ALS Post Processor software and IPAS Pro GPS/ INS software, based on independent data from the LiDAR system, IMU, and aircraft. 3. The raw LiDAR file was assembled into flight lines per return with each point having an associated x, y, and z coordinate. 4. Visual inspection of swath to swath laser point consistencies within the study area were used to perform manual refinements of system alignment. 5. Custom algorithms were designed to evaluate points between adjacent flight lines. Automated system alignment was computed based upon randomly selected swath to swath accuracy measurements that consider elevation, slope, and intensities. Specifically, refinement in the combination of system pitch, roll and yaw offset parameters optimize internal

consistency. 6. Noise (e.g., pits and birds) was filtered using ALS postprocessing software, based on known elevation ranges and included the removal of any cycle slips. 7. Using TerraScan and Microstation, ground classifications utilized custom settings appropriate to the study area. 8. The corrected and filtered return points were compared to the RTK ground survey points collected to verify the vertical and horizontal accuracies. 9. Points were output as laser points, TINed and GRIDed surfaces.

- 2017-10-10 00:00:00 - The NOAA Office for Coastal Management (OCM) received the data in the proprietary ESRI grid format from DOGAMI. The bare earth raster files were at a 3 ft grid spacing. The data were in Oregon Statewide Lambert (NAD83 HARN) International feet coordinates and NAVD88 (Geoid03) elevations in International feet. OCM did the following processing to the data for Digital Coast storage and provisioning purposes: 1. Converted the raster files from the proprietary ESRI grid format to floating point GEOTIFF format 2. Converted the raster files from elevations in international feet to meters using gdal_translate from GDAL version 2.1.1. 3. Copied the raster files to database and https

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation
The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
No

6.1.1. If metadata are non-existent or non-compliant, please explain:
Missing/invalid information:
- 1.6. Type(s) of data
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination

  - 8.1. Actual or planned long-term data archive location
  - 8.3. Approximate delay between data collection and submission to an archive facility
  - 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/49444

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=7382

https://coast.noaa.gov/htdata/raster2/elevation/OLC_Deschutes_DEM_2009-2011_7382

7.3. Data access methods or services offered:
This data can be obtained on-line at the following URL:

https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=7382

;

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.